CHUSQUEA CLARKIAE (POACEAE: BAMBUSOIDEAE: BAMBUSEAE: CHUSQUEINAE): A NEW SPECIES IN SECTION *LONGIPROPHYLLAE* FROM NARIÑO, COLOMBIA

Emmet J. Judziewicz

Robert W. Freckmann Herbarium
Department of Biology and Museum of Natural History
University of Wisconsin-Stevens Point
Stevens Point, Wisconsin 54481, U.S.A.
emmet.judziewicz@uwsp.edu

Ximena Londoño

Sociedad Colombiana del Bambú
Apartado Aereo 11574
Cali, COLOMBIA
ximelondo@gmail.com

ABSTRACT

Chusquea clarkiae (Poaceae: Bambusoideae: Bambuseae: Chusqueinae), a new species in section *Longiprophyllae* from the Cordillera Occidental of Nariño, Colombia, is described and illustrated. It differs from *C. longiprophylla* (Cordillera Central and Cordillera Oriental) in its larger spikelets (8.5–10 mm long versus 7.1–8.5 mm long), and lower elevational preference of 1130 m (versus 1750–2200(–2700) m).

RESUMEN

Se describe e ilustra **Chusquea clarkiae** (Poaceae: Bambusoideae: Bambuseae: Chusqueinae), una nueva especie de la sección *Longiprophyllae* de la Cordillera Occidental de Nariño, Colombia. Se diferencia de *C. longiprophylla* (Cordillera Central y Cordillera Oriental) por tener sus espiguillas más grandes 8.5–10 mm de longitud (versus 7.1–8.5 mm de longitud), y por preferir un rango de distribución altitudinal más bajo de 1130 m (versus 1750–2200(–2700) m).

INTRODUCTION

A bamboo collected in Colombia along the Pasto to Tumaco road in 1990 by the second author, John Kress, and Wilson Devia is, upon examination, a new species of *Chusquea* Kunth (Poaceae: Bambusoideae: Bambuseae: Chusqueinae). Its combination of a scandent habit, infravaginal branching, tightly circular array of subsidiary buds, narrow, erect, persistent, abaxially scabrous culm leaf blades, spikelets with well-developed glumes I and II, and apiculate spikelet bracts all place it as a member of *Chusquea* Section *Longiprophyllae* L.G. Clark, a group that now comprises seven species occurring at elevations of (950–)1130–2750 m in the Andes from Venezuela to central Peru. The Section is most diverse in Colombia (Clark 1990).

TAXONOMY

Chusquea clarkiae Londoño & Judz., sp. nov. (**Figs. 1, 2**). TYPE: COLOMBIA. NARIÑO: Mpio. Altaquer, 10 km de Altaquer por la vía a Tumaco, junto al oleoducto del Pacífico, 1130 m, Bambú escandente, ca. 10 m altura, culmos 1–1.5 cm de diametro, ramificación compuesta por una yema central, no muy larga, y varias secundarias, con flor, 14 Sep 1990, *X. Londoño, J. Kress & W. Devia 502* (HOLOTYPE: COL; ISOTYPES: TULV, UWSP).

Rhizomes unknown. Culms up to 10 m long, 1–1.5 cm in diameter, scandent, solid. **Culm leaves** at least 26 cm long (base not seen), sheaths at least 20 cm long, abaxially strongly retrorsely scabrous, the midrib obscure; blades 6.5–8.5 cm long (in two examples available), folded width at base 3–5 mm, linear-attenuate, erect, persistent, abaxially slightly retrorsely scabrous, the midrib inconspicuous, the margins glabrous; inner ligules 0.5–1 mm long. **Nodes** at mid-culm with a central bud subtended by 4 slightly smaller subsidiary buds; supranodal ridge visible as a slightly raised line, not prominent; girdles 1.5–2.5 mm wide, brown to dark brown, covered with fine, brown, retrorsely appressed, silky hairs 0.5–1 mm long. **Branching infravaginal,** with emergent branches in available material diverging downwards up to 30° from the main culm; prophylls 2—4 cm long, narrow, glabrous; leafy subsidiary branches 4–5 per node, 4–8 cm long, ca. 1 mm in diameter, not rebranching. **Foliage leaves** 4–7 per complement; sheaths glabrous, uniform in color, keeled toward the sum-

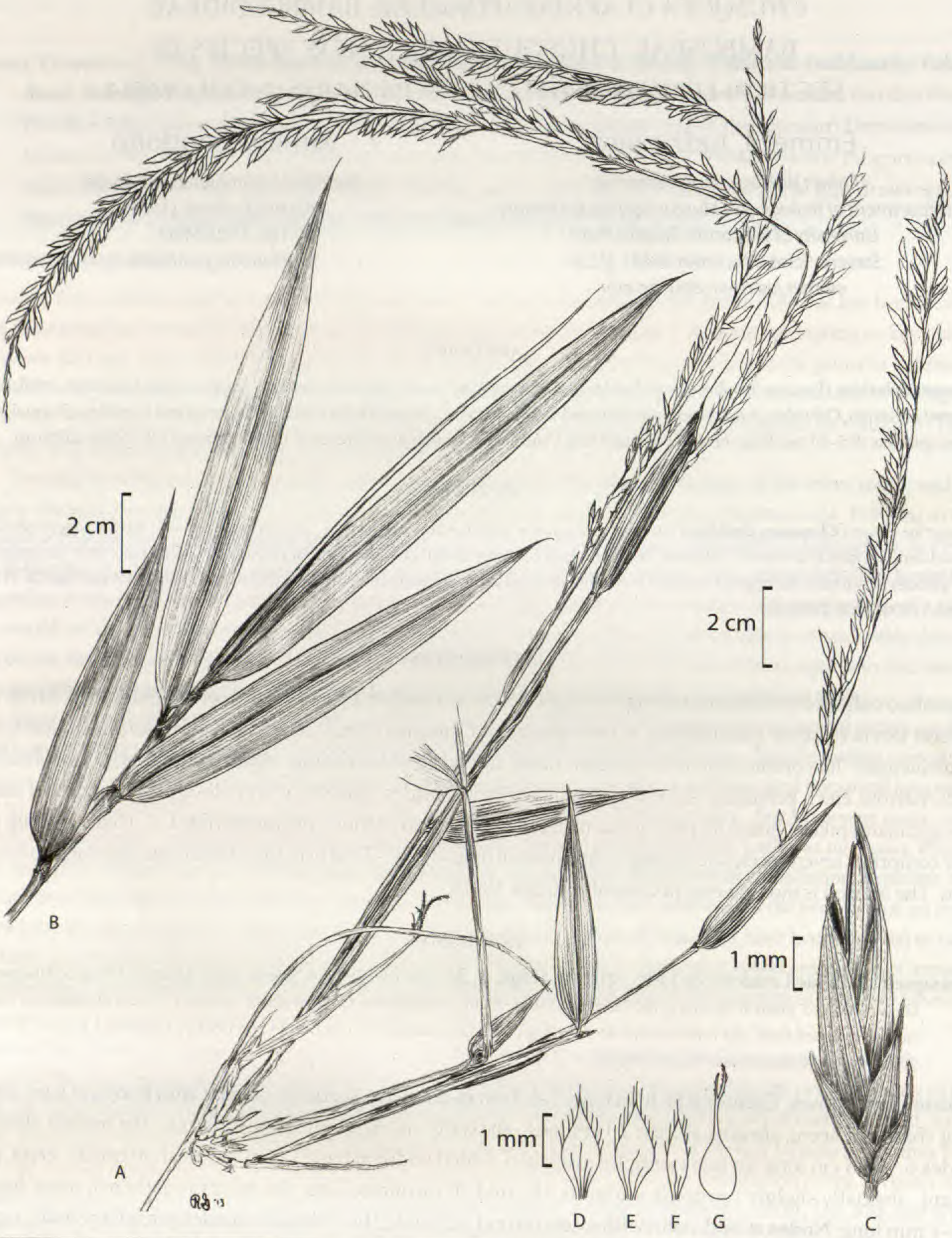

Fig. 1. *Chusquea clarkiae*. **A.** Culm and branch complement with flowering branches. **B.** Foliage leaf complement. **C.** Spikelet, lateral view. **D–E.** Anterior lodicules. **F.** Posterior lodicule. **G.** Gynoecium. Based on *Londoño et al. 502* (UWSP). Illustration by Rebecca A. Gregory.

mit, the margins glabrous, summit extension absent to 2 mm long; blades 13–20 cm long, 1.5–2 cm wide, L:W = 8–10, narrowly lanceolate, glabrous except puberulent on the adaxial surface of the pseudopetiole, not tessellate, the midrib usually visible abaxially and prominent for ca. ⅔ the length of the blade, the base rounded-attenuate, the apex acuminate-attenuate, the margins antrorsely scabrous to serrulate; pseudopetioles 3–5 mm long; outer ligules 1–2 mm long, indurate, usually irregularly bilobed, each lobe in turn lacerate, glabrous; in-

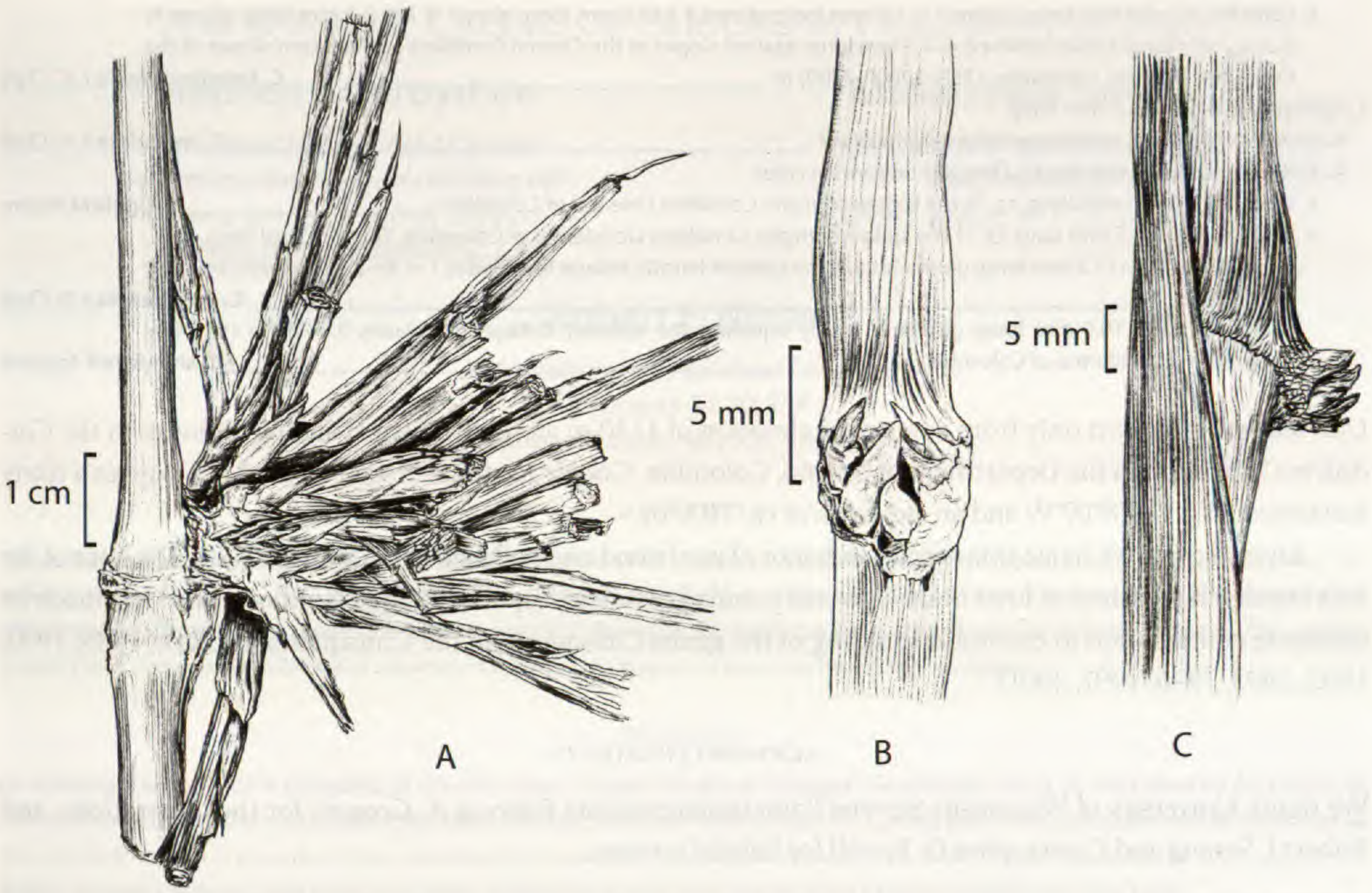

Fig. 2. *Chusquea clarkiae*. **A.** Detail of branch complement. **B.** Front view of emergent infravaginal branch complement. **C.** Lateral view of culm showing erect culm leaf (left) and emergent infravaginal branch complement. Based on *Londoño et al. 502* (UWSP). Illustration by Rebecca A. Gregory.

ner ligules 7–12 mm long, narrowly triangular, firmly membranous, glabrous. **Inflorescences** 23–30 cm long, 1.5–2.5 cm wide, narrowly paniculate, the rachis angular and puberulent, the branches angular, glabrous, ridged, and scabrid, the lowermost branches 2.5–6.5 cm long, ascending at maturity, the secondary and higher order branches erect, the pedicels 2–4 mm long, angular, appressed to the branches. **Spikelets** 8.5–10 mm long, puberulent with retrorse hairs ca. 0.1 mm long, more or less dorsally compressed; glume I 2–4.5 mm long, 1–5(–7)-nerved, acuminate; glume II 3–5 mm long, 3–7(–9)-nerved, acuminate to somewhat apiculate; glume III 5–6.5 mm long, (5–)7–9(–11)-nerved, acuminate-apiculate to somewhat navicular; glume IV 7.5–9 mm long, (7–)9–11(–13)-nerved, navicular; lemma 8.5–10 mm long, 9–11-nerved, navicular; palea 8–9.5 mm long, shorter than the lemma, biapiculate, glabrous, 4-nerved, sulcate for nearly its full length, puberulent near apex. Lodicules 3, apically ciliate with erect hairs 0.3–0.4 mm long; anterior pair 1.7–2 mm long, the posterior one 1.3–1.7 mm long. Stamens 3, the anthers 3.5–4.5 mm long. Gynoecium with ovary ovoid, glabrous, 1 mm long, the style ca. 0.8 mm long, the stigmas 2, 0.5–0.7 mm long, short-plumose. **Fruit** not seen.

Following the key to species of Section *Longiprophyllae* for both vegetative and flowering material in Clark (1990:626–627), this collection would be identified as *C. longiprophylla* L.G. Clark; however, *C. longiprophylla* is from the central and eastern cordilleras of Colombia, found at somewhat higher elevations (1750–2200 (–2700) m) than *Londoño et al. 502* and has smaller spikelets and glumes. On the basis of these characters and distribution, we recognize the new species *C. clarkiae*. Clark's 1990 key to Section *Longiprophyllae* may be revised to accommodate *C. clarkiae* as follows:

1. Spikelets 7.1–10 mm long.
   2. Foliage leaf blades 0.3–0.8 cm wide ____ **C. londoniae** L.G. Clark
   2. Foliage leaf blades 1–2.4 cm wide.
      3. Spikelets 8.5–10 mm long; glume I 2–4.5 mm long; glume II 3–5 mm long; glume III 5–6.5 mm long; glume IV 7.5–9 mm long; fertile lemma 8.5–10 mm long; southern Cordillera Occidental, Colombia, 1130 m ____ **C. clarkiae** Londoño & Judz.

3. Spikelets 7.1–8.5 mm long; glume I 1–1.2 mm long; glume II 1.6–3 mm long; glume III 2.9–3.2 mm long; glume IV 5.2–6.2 mm long; fertile lemma 6.4–7.5 mm long; eastern slopes of the Central Cordillera and western slopes of the Cordillera Oriental, Colombia, 1750–2200(–2700) m _____ **C. longiprophylla** L.G. Clark

1. Spikelets (8.8–)10–13.3 mm long.
   4. Spikelets glabrous; culm leaves abaxially mottled _____ **C. maculata** L.G. Clark
   4. Spikelets scabrid; culm leaves abaxially uniform in color.
      5. Glume III 5.9–8.7 mm long, ca. ¾ the spikelet length; Cordillera Oriental of Colombia _____ **C. ligulata** Munro
      5. Glume III I 4.1–5.5 mm long, ca. ½ the spikelet length; Cordillera Occidental of Colombia, Ecuador, and Peru.
         6. Spikelets 10.7–11.3 mm long; glume IV ca. 4 the spikelet length; foliage leaf blades 1–1.4(–2.1) cm wide; Ecuador and Peru _____ **C. exasperata** L.G. Clark
         6. Spikelets 9.8–10.9 mm long; glume IV nearly equaling the spikelet; foliage leaf blades 0.6–1(1.3) cm wide; Cordillera Occidental of Colombia _____ **C. sneidernii** Asplund

Distribution.—Known only from a recorded elevation of 1130 m along the Pasto-Tumaco highway in the Cordillera Occidental in the Department of Nariño, Colombia. Google Earth (accessed 18 June 2013) gives a likely location of 1°19'N, 78°07'W and an elevation of ca. 1100 m.

Etymology.—We name this species in honor of our friend and colleague Dr. Lynn G. Clark, Director of the Ada Hayden Herbarium at Iowa State University, and agrostologist specializing in bamboos, who has made an immense contribution to our understanding of the genus *Chusquea* and the Chusqueinae (Clark, 1989, 1990, 1992, 1993, 1996, 1997, 2001).

ACKNOWLEDGMENTS

We thank University of Wisconsin-Stevens Point undergraduate Rebecca A. Gregory for the illustrations, and Robert J. Soreng and Christopher D. Tyrrell for helpful reviews.

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